

Notice of Allowability

Application No.

10/734,715

Examiner

Robert J. Hoffberg

Applicant(s)

SANDERS ET AL.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS. This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 8/16/06.
2. ☒ The allowed claim(s) is/are 1-3, 5-12 and 14-32.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
 - * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application. THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

MICHAEL DATSKOVSKIY
PRIMARY EXAMINER

Michael Datskovskiy 08/18/06

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Bryan D. Kirkpatrick, Reg. No. 53135 on 8/18/06 and 8/21/06.

2. Change the title from "Device for Removing Heat from Electrical Equipment" to -- Device for Removing Heat from a Power Connector--.

3. Cancel claim 4.

REASONS FOR ALLOWANCE

4. Claims 1-3, 5-12, 14-32 are allowed.

5. Claim 1 and all claims dependent thereof are allowable over the art of record because the prior art does not teach or suggest a connector comprising of "a housing" and "an air flow control device configured to direct air through openings in a circuit board and into one of the housing openings". The aforementioned limitations in combination with all remaining limitations of the respective claims are believed to render said claims 1 and all claims dependent thereof patentable over art of record.

6. Claim 10 and all claims dependent thereof are allowable over the art of record because the prior art does not teach or suggest a heat removal system comprising of "a power connector", "a device" attached over the connector for "directing air from underneath the circuit board up through a second set of contact holes, through the

power connector and out an output vent". The aforementioned limitations in combination with all remaining limitations of the respective claims are believed to render said claims 10 and all claims dependent thereof patentable over art of record.

7. Claim 12 is allowable over the art of record because the prior art does not teach or suggest a heat removal system comprising of "a power connector", "a device" attached over the connector including "an output vent", "intake vent" directing air from underneath the circuit board and into the device" and a "hinge". The aforementioned limitations in combination with all remaining limitations of the respective claims are believed to render said claim 12 patentable over art of record.

8. Claim 17 and all claims dependent thereof are allowable over the art of record because the prior art does not teach or suggest an air flow control device comprising of "a unit", a power connector", "an air intake vent", "an air outtake vent", "conductor" arranged to direct the air through the power connector in channels exposing a majority of a surface area of the conductors". The aforementioned limitations in combination with all remaining limitations of the respective claims are believed to render said claims 17 and all claims dependent thereof patentable over art of record.

9. Claim 21 and all claims dependent thereof are allowable over the art of record because the prior art does not teach or suggest a method comprising of "directing an air flow" through "a first set of electrically coupled contact holes", "circulating air past electrical contacts" and "directing the air into a housing through multiple passageways of the conductors". The aforementioned limitations in combination with all remaining

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limitations of the respective claims are believed to render said claims 21 and all claims dependent thereof patentable over art of record.

10. Claim 25 and all claims dependent thereof are allowable over the art of record because the prior art does not teach or suggest a connector comprising of "conductors", "a housing", "an air flow device substantially enclosing the housing" including promoting air flow through "a circuit board" and across parallel passageways exposing upper and lower surfaces of the conductors. The aforementioned limitations in combination with all remaining limitations of the respective claims are believed to render said claims 25 and all claims dependent thereof patentable over art of record.

11. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

12. None of the cited references, either taken alone or in combination is believed to render the present invention unpatentable as claimed. Prior art of record is cited in the current and previous office actions.

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Kim et al. (US 6,882,108 Fig. 4C) teach an air flow control device including an air intake vent on one side for promoting air flow perpendicular through a housing and an exhaust vent located on the other side for exhausting air parallel and offset to the intake air. Smalley et al. (US 6,733,302) teach a power

connector with stacked contact blades in a housing, but lacks any of apertures or passageways for cooling.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert J. Hoffberg whose telephone number is (571) 272-2761. The examiner can normally be reached on 8:30 AM - 4:30 PM Mon - Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lynn D. Feild can be reached on (571) 272-2092. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

RJH